

**JPRS 77938**

**27 April 1981**

# **USSR Report**

**ENERGY**

**No. 56**

**FBIS**

**FOREIGN BROADCAST INFORMATION SERVICE**

## NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [ ] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

## PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available through Bell & Howell, Old Mansfield Road, Wooster, Ohio, 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

27 April 1981

## USSR REPORT

## ENERGY

No. 56

## CONTENTS

## ELECTRIC POWER

Uses for Wind Energy Discussed (K. Vashkevich, et al; PRAVDA, 5 Jan 81) .....	1
Hydroelectric Power Production Plan Up to 1985 (IZVESTIYA, 31 Jan 81) .....	5
Rural Electrification in Next Five-Year Plan (IZVESTIYA, 4 Feb 81) .....	7
Briefs	
Station on the Kama	9
Nuclear Power Plant for Tatarskaya ASSR	9
Makhachkala	9
Belorussiya	10
Uzbekistan	10

## ENERGY CONSERVATION

Ukrainian Supply Chief Emphasizes Recycling Resources (P. Mostovoy; IZVESTIYA, 17 Jan 81) .....	11
Winter Preparations: Problems of Fuel Storage in Moscow (A. Aleksanov, A. Khor'kov; MOSKOVSKAYA PRAVDA, 30 Oct 80) .....	14
Delays in Improving Use of Kirghiz Coal Criticized (A. Dzhamanbayev; SOTSIALISTICHESKAYA INDUSTRIYA, 18 Feb 81) .....	16
Power Outages Disrupt Livestock Farms in Kurganskaya Oblast (A. Minayev; PRAVDA, 23 Jan 81) .....	19

Winter Preparations in Vilnius (G. Masal'ski; SOVETSKAYA LITVA, 10 Oct 80) .....	23
Party Urges Enhanced Reliability of Energy Supply (MOSKOVSKAYA PRAVDA 25 Oct 80) .....	25
Saving Fuel, Energy in Moldavia (M. Gostev; SOVETSKAYA MODALVIYA, 4 Nov 80) .....	30

#### FUELS

Progress, Promise of Gas Industry Reported by Industry Official (Sergey Stepanovich Kashirov Interview; KRASNAYA ZVEZDA, 24 Jan 81) .....	33
Thawing Retards Progress on Urengoy-Moscow Gas Pipeline (SOTSIALISTICHESKAYA INDUSTRIYA, 10 Feb 81) .....	36
Progress in Turkmenia's Gas Utilization Traced (V.A. Shekhter; TURKMENSKAYA ISKRA, 14 Feb 81) .....	38
Natural Gas Saving Measures Suggested (N. Fedorov; PRAVDA, 2 Feb 81) .....	40
Progress, Problems in Uzbekistan Fuel, Energy Complex Noted (P. Savchenko; KOMMUNIST UZBEKISTANA, Jan 81) .....	43

## ELECTRIC POWER

### USES FOR WIND ENERGY DISCUSSED

Moscow PRAVDA in Russian 5 Jan 81 p 3

[Article by K. Vashkevich, Doctor of Technical Sciences, P. Zhuravlev, Engineer, and Ya. Shefter, Doctor of Technical Sciences: "Money for the Wind?"]

[Text] The question posed in the headline can be answered in the affirmative only if the expenditures for mastering wind energy provides an economic effect, promote a reduction in the consumption of scarce fuel resources and improve the provision of energy for consumers.

Recent research here and abroad has led to the principal conclusion that large-scale wind energy should be used primarily for mechanizing the pumping of water and other labor-intensive work in agriculture, and to power relatively small autonomous objects, i.e., in so-called small scale energetics. At the same time, wind installations can, in particular areas and under certain conditions, take on the regular supply of electricity to certain groups of users, and even small regions which are at a distance from power systems, with the joint use of wind power stations (VES) and other power stations.

The combination of wind and low-power water storage electric stations may become promising. By installing wind-powered machinery with pumps and water catch basins at different heights, water can be pumped into the higher basins when the wind is good, and the stored water can be used to produce electricity when the wind is low. Such combination stations will provide reliable power supply even with low power and simple equipment. This is particularly important for remote regions in rural areas.

As we can see, the wind can also take on a definite share of the load in "large-scale energetics," mainly in local electric systems. However, industrial consumption of energy produced by VES is not excluded.

Wind installations together with storage can be used profitably in areas with suitable wind modes to power automatic meteorological stations, signalling devices, radio communication equipment, and cathode corrosion protection of mainline oil and gas pipelines. In addition, it is economically justifiable to use two-four megawatt or greater wind stations together with non-wind installations in local power systems in regions with high wind energy potential which are located far from

centralized electrical power lines. This includes primarily Kamchatka, the Kol'sk Peninsula and the Far East.

Experience in the operation of wind units in kolkhozes and sovkhozes in the Semipalatinskaya Oblast, the Kalmykskaya ASSR and Turkmenia shows that even a low-power (1-2 kilowatt) wind pumping unit working in a pasture instead of an internal-combustion engine with a pump will save as much as 1.5 tons of gasoline annually, and will pay for itself in two years, while lasting for 8 years or more. The requirement for units with this much power or more is several thousand annually. Specialists at the Kazsel'khozmeekhanizatsiya NPO have proved that wind energy can be used in the grazing area near Lake Balkhash to provide water for the stock and electricity nearly 300 days per year. Experimental installations have been used successfully to distill salt water, aerate water tanks and to heat buildings.

Predictions indicate that the total installed power of wind units can be increased in the near future, according to the most modest estimates, to 800-850 thousand kilowatts, producing at least 2-3 billion kilowatt-hours. This will permit a savings of 1.5-2 million tons of comparison fuel. The construction of local paired -- wind and storage -- stations promises to increase these savings by a factor of 3 or 4.

Soviet scientists and specialists have found efficient methods of using wind energy, have proposed the design of high-output installations, and proposed systems to operate them. Nonetheless, the use of wind energy has not developed to any great extent here in recent years. Among the main reasons for this are the unsatisfactory organization and supervision of this matter. There is no qualified design organization capable of creating wind units which respond to the current level of science and technology and which satisfy the requirements of long reliable operation. Therefore, in particular, mass production of wind generators has ceased. The small plant which was set aside for this purpose in Astrakhan is poorly equipped, and is involved four-fifths of the time in the production of other product.

Until recently, plans for wind installations were carried out through the efforts of scientific organizations, and experimental lots were fabricated at poorly-adapted plants. Therefore, the designs had shortcomings, and the quality and reliability of the machinery were low. Likewise, their technical servicing is usually entrusted to untrained people. The situation is aggravated by the fact that no appropriate cadres have been trained, nor have wind generator spare parts been produced, for nearly 20 years.



Five years ago, the former Central Laboratory for Wind Generators and Wind Power Stations of Minelektrotekhprom was given over to Minvodkhoz USSR and renamed the NPO "Tsiklon." This did not result in any improvement. The USSR State Committee on Science and Technology recognizes the work of "Tsiklon" to be unsatisfactory. However, Minvodkhoz USSR and its Glavsel'khozvodosnabzheniye have stood idly by.

During 1973-1975, a significant number of new-type experimental pumping and electric units were installed in Kazakhstan and Turkmenia, at kolkhozes and sovkhozes in the Kalmykskaya ASSR and Dagestan, in Astrakhanskaya Oblast' and on the Kol'sk Peninsula. Regardless of the defects which survived the production and design, the wind units made a good showing in many areas. It was necessary to improve their design, and to adjust the mass production, as well as to organize an operating service in the main wind installation user departments. Minvodkhoz SSSR was given responsibility for this, but has done nothing. The primary consumer -- Minsel'khoz SSSR -- ceased to work seriously on wind installations. The institutes subordinate to Minsel'khoz SSSR and VASKhNIL eliminated the units which were working on the agricultural use of renewable energy sources. Neither Minsvyaz' nor Mingazprom has shown any noticeable interest in this problem but more decisive practical steps might be expected from Minenergo SSSR.

It is hardly surprising that with this attitude research in the area of wind power has now practically ceased, qualified people are being lost, and the number of installations in operation is dropping. The annual production of the latter does not exceed 150-200 units.

We consider it completely proper that the CC CPSU plan for the XXVI Party Congress provides for an increase in the scale of utilization of renewable energy sources (hydraulic, solar, wind, geothermal) in the national economy, and for improving methods of converting and transmitting energy. In our opinion, the measures needed to do this must be carried out within the framework of a comprehensive purposeful program. The program must provide for the comprehensive development of scientific-research and experimental-design work on the combined utilization of various non-traditional energy sources, the production of component equipment and spare parts, and personnel training.

It would seem that Minenergo SSSR should undertake the coordination of the efforts of various branches. This organization should be responsible for technical politics in the area of wind, solar and geothermal energy; the user ministries, primarily Minsel'khoz SSSR, should be assigned the problems of application and operation of installations; requirements for the latter should be substantiated.

In our opinion, it is essential to create on the basis of under-strength uncoordinated organization an All-Union Scientific-Production Union for the Utilization of Renewable Energy Sources, to attract qualified personnel and to revive the experimental base. Capacity must be set aside for mass production of units. The slogan here must be "for Gosplan SSSR."

The USSR State Committee on Science and Technology did a great deal for the development of wind energy in previous years. We propose that the time has come for this Committee, along with Gosplan SSSR and the USSR Academy of Sciences, to examine the questions of mastering renewable energy sources, to confirm an assignment for the formation of a long-term purposeful program. These measures will make it possible in the near term to put wind energy to work in the national economy. We consider it useful to supplement Section III of the CPSU Central Committee plan with an instruction that the main direction in the expansion of utilization of non-traditional energy forms should be the comprehensive utilization of all renewable energy resources.

6900  
CSO: 1822



## ELECTRIC POWER

### HYDROELECTRIC POWER PRODUCTION PLAN UP TO 1985

Moscow IZVESTIYA in Russian 31 Jan 81 p 2

[Unsigned article: "Hydroelectric Power: Hydroelectric Power Station Energy Production to Reach 230-235 Billion Kilowatt Hours in 1985"]

[Text] In terms of total installed power of hydroelectric stations, our country is in second place (after the USA), and we are in third place in terms of the amount of energy produced (after the US and Canada). The total energy potential of the rivers of the USSR is over 3.3 trillion kilowatt-hours per year; about one-third of this energy can be put to use in the economy. Only 18% of the potentially usable hydraulic power resources are now being exploited.

The installed power of all hydroelectric stations and the production of electricity at them have increased in the USSR as follows: in 1928, 0.1 kilowatts and 0.4 billion kilowatt-hours, respectively; in 1940 -- 1.6 million and 5.3 billion; in 1965 -- 14.8 million and 50.9 billion; in 1980 -- 52 million and over 180 billion.

The power of the leading station under the GOELRO plan -- the Volkhovskaya GES, which came on line at the end of 1926 -- was about 60,000 kilowatts. By contrast, the Krasnoyarskaya GES, which was brought on line in 1972, has 12 each 500,000 kilowatt units. Even more powerful will be the Sayano-Shushenskaya GES which is now under construction, where ten 640,000 kilowatt units are to be installed.

Strings of power stations have been constructed on many of our rivers, which increases the efficiency of utilization of hydraulic power resources significantly. There are now about 30 such cascaded stations in this country: 19 in the European part, including the Caucasus, with the others in the eastern regions. For example, 18 power stations are cascaded on the Chirchik River in Central Asia.

Soviet hydrotechnical science, as well as planning the construction practice, have reached a level at which unique, as well as complex, problems can be solved. For example, we are building dams of unequalled height; furthermore, many of them are designed to withstand the most severe earthquakes. The height of the dam at Ingurskaya GES is 272 meters, the Sayano-Shushenskaya -- 240 meters; the Nurekskaya -- 300 meters.

Depending upon regional conditions, hydroelectric power is being developed here in three basic directions. In the central regions of the European portion of the country and in the Urals, where the electrical loading schedules are extremely irregular and where the unit power of the power units being brought on line is increasing continually, the GES has the duty of regulating power system operation. In addition, we are building and will be building hydraulic storage power stations which store the "excess" energy from nuclear and thermal power stations during low-load periods in the networks, so that it can be transmitted to users as needed later.

A second direction in the development of hydraulic power engineering is characteristic for the eastern part of the country, primarily Siberia. Here the electric power produced at large GES is used for increasing the economic potential of adjacent regions, for creating large-scale national complexes on the basis of deployment of energy-intensive production, and for transmission to western regions.

A third, and very important, direction is to increase the comprehensive utilization of hydraulic energy resources. This is manifested most clearly at present in the construction of GES in Central Asia. These are not only new "electricity factories," carrying light and renewal to cities and villages; they also make it possible to regulate the runoff from mountain rivers, redistributing it in the interests of irrigating huge, previously, barren land masses.

It is imprecisely these three promising directions that Soviet hydraulic power engineering is to be developed in the 11-th five-year plan.

6900

CSO: 1822

## ELECTRIC POWER

### RURAL ELECTRIFICATION IN NEXT FIVE-YEAR PLAN

Moscow IZVESTIYA in Russian 4 Feb 81 p 2

[Unsigned article: "Village Electrification: Extent of Electrification of Labor in Agriculture to Increase by a Factor of 1.4-1.5 During 11-th Five-Year Plan"]

[Text] Complete electrification of agriculture was primarily finished 10 years ago in the USSR. All production enterprises and 99.7% of residential buildings are now supplied with electricity in rural areas. In 1980, the consumption of power here was about 110 billion kilowatt-hours. This is nearly as much as the entire country consumed in 1952.

There are now over 13 million electric motors and over 2 million electrical installations operating in Soviet agriculture. The electrical capacity of Soviet agriculture is more than half the total power of all tractor engines; the annual number of hours of utilization is also significantly higher. Since 1965, the extent of electrification of labor per agricultural worker increased by a factor of seven, comprising over 2700 kilowatt-hours in 1980.

Animal-husbandry enterprises have recently become the primary objects of rural electrification. Furthermore, many of them are approaching large industrial enterprises in terms of electricity consumption and extent of electrification. For example, servicing a complex of 108,000 head of swine annually requires about 40 automated electric drive systems, 12 power transformers, more than 1200 electric motors, 2600 infrared heaters and much other electrical equipment. Even larger animal-husbandry complexes are now being built here.

Greenhouse managements are among the largest electricity consumers. As much as 500 watts per square meter of area is needed for supplementary illumination of seedlings alone when there is insufficient sunlight. Meliorative systems, of course, are becoming an increasing problem for rural electrification workers. For example, the total power of the pumping stations on the Karshinskiy mechanical canal is almost 500,000 kilowatts; 12.5 thousand kilowatt synchronous electric motors are needed to drive their pumps.

Many new electrification processes have appeared recently in agriculture. These include providing heat for young animals and poultry,

heating water for production needs, creating an optimal indoor microclimate, and irradiating animals and poultry with ultraviolet and infrared rays.

Electrification of the agricultural population is of great social importance. About 25% of all of the electric power received by our agriculture is expended for these purposes. Electrification is making it possible to eliminate the differences between urban and rural living conditions rapidly. Televisions, radios, refrigerators and washing machines are appearing in more and more rural homes.

Rural electrification workers will have to carry out new, responsible tasks in the 11-th five-year plan.

6900

CSO: 1822

## ELECTRIC POWER

### BRIEFS

**STATION ON THE KAMA--Dobryanka (Permskaya Oblast')**, 6--Builders have undertaken the construction of 4.8 million kilowatt sites for the Permskaya GRES. The latter will produce twice as much power than is now produced by all of the thermal stations in the oblast'--the Kamskaya and Votkinskaya GES. This will make it possible to satisfy fully the requirement of industry and agriculture for electrical power, some of which can be sent to other regions. [Text] [Moscow, SOTSIALISTICHESKAYA INDUSTRIYA in Russian 7 Feb 81 p 2] 6900

**NUCLEAR POWER PLANT FOR TATARSKAYA ASSR--**Kneeling on his skis with his back to the penetrating wind, Minitalim Kadyrov pounded the first peg into the frozen ground. In time, the hot flame of still another nuclear power plant--the Tatarskaya AES--will blaze up on the spot marked by the surveyors. The new power station will be built in the region of a large industrial center including Nizhnekamsk and Naberezhnyye Chelny. The plant will make it possible to revive the area without concern about an energy shortage. The station will be constructed by builders from the Kamgesenergostroy production union, which has the automotive giant at Naberezhnyye Chelny to its credit. The new city which will grow up around the nuclear plant is already being planned by the Moscow TsNIEPzhilishcha. The city is calculated for 130,000 residents. Incidentally, the specialists at this institute were the planners of Naberezhnyye Chelny. The complex whose center will become the AES includes a large industrial zone. A hydraulic storage station with a man-made reservoir will serve for the sound production and consumption of electric power. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 17 Feb 81 p 2] 6900

**NAKHIACHKALA--**A State Commission has accepted the Chirkeyskaia GES on the Sulak River in Dagestan for industrial operation with an evaluation of "excellent." The power of this station, the largest in the Northern Caucasus, is one million kilowatts. The station's water reservoir was created by building a unique arched reinforced-concrete dam nearly 240 meters high. Representatives of more than 40 nationalities of our country built the station and it is now on line. By the time of acceptance by the State Commission, the Chirkeyskaia GES had produced 11 billion kilowatt-hours of electricity, and had paid back 70% of its construction costs. The energy resources of the Sulak are continuing to be mastered. Two new power stations are being built here--the Miatlinskiya, with capacity of 220,000 kilowatts, and the Irganayskaya, with 800,000 kilowatt capacity. A meeting was held which was devoted to this grand event. The labor report of the Dagestan builders and power engineers to the XXVI Party Congress was accepted at the meeting. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 15 Feb 81 p 1] 6900

**BELORUSIYA--**The use of gas instead of liquid sodium has been proposed by Soviet scientists for cooling fast-neutron reactors. (Text) [Moscow IZVESTIYA in Russian 4 Feb 81 p 6] 6900

**UZBEKISTAN--**Transformer struck by lightning remains operable. A new unit produced by the Chirchikiskiy transformer plant has successfully undergone testing on a pulse stand which precisely simulates a powerful electric discharge. (Tex.) [Moscow IZVESTIYA in Russian 4 Feb 81 p 6] 6900

CSO: 1822



## ENERGY CONSERVATION

### UKRAINIAN SUPPLY CHIEF EMPHASIZES RECYCLING RESOURCES

Moscow IZVESTIYA in Russian 17 Jan 81 p 2

[Article by P. Mostovoy, chairman of Ukrainian SSR Gosnab, deputy to the Supreme Soviet of the Ukrainian SSR: "Use Waste Products More Fully"]

[Text] In the course of discussion of the CPSU Central Committee draft document for the 26th party congress, the agencies of Ukrainian SSR Gosnab [State Committee for Material and Technical Supply] have summarized accumulated experience, analyzed shortcomings and omissions, and developed effective steps to eliminate them. The settling ponds and tailings facilities of the concentrating factories of the Ministry of Coal Industry and the coke chemical plants of the republic Ministry of Ferrous Metallurgy were examined in order to find ways to supply fuel needs more fully. Potential was identified and times and volumes for slag shipment were determined. As a result, in 1980 customers received 2.8 million tons of slag. The settling ponds still have 5 million tons of slag with an ash content of 50-70 percent. We expect that the Academy of Sciences and USSR ministries of Coal Industry and Power and Electrification will step up development of technology for burning them and refine processing technology at coal concentrating factories for energy and coking coals so that valuable products are not thrown out.

The national economy can realize a great fuel savings by improving the use of combustible and thermal secondary energy resources formed at industrial enterprises. The gas distribution lines of the republic have 14 pumping compressor plants which emit 2.15 million gigacalories of heat into the atmosphere together with exhaust gases. Use of this heat for municipal and domestic purposes would be the equivalent of mining an additional 410,000 tons of Donetsk coal. A significant fuel savings can be accomplished by eliminating losses of secondary energy resources at Ukrainian petroleum refineries. Full use of combustible exhaust gases from various production facilities at enterprises of the chemical and petrochemical industries would also enable us to avoid enormous losses. At the Dasha industrial carbon plant alone the lack of customers for the heat of exhaust gases results in a loss that is the equivalent of 120,000 tons of coal. The situation is no better with utilization of the gas formed in ferroalloy production at the Zaporozh'ye, Nikopol'ye, and Stakhanov plants. The republic has just one installation to utilize heat from a cement furnace and a few efficient heat exchangers at glass furnaces. The entire building materials sector uses just 1.8 percent of potential secondary thermal energy resource.

The fourth section of the draft document "Basic Directions" envisions fuller utilization of secondary energy resources, an increase in the production of equipment that makes it possible to use them in metallurgy and other industrial sectors, and accelerating the development and introduction of energy-conserving technologies and efficient methods of using secondary heat. It seems to us that it would be wise to add the following words to this section:

"Plan and carry out the redesigning and construction of projects related to the utilization of secondary energy resources as priority projects."

The ministries and departments should encourage work by sectorial scientific research institutes to review norms taking into account progressive experience with economical use of material resources. In connection with this, the following phrase should be added to the fourth section of the draft document "Basic Directions" after the words "insure conservation of material resources. Introduce progressive expenditure norms per unit of output produced":

"with due regard for the latest scientific and technical advances."

Precisely planned, stable material-technical supply is very important for efficient use of material resources. The agencies of Gosplan must be given the possibility of organizing additional production of scarce machine building and electrical equipment output in order to achieve balance between demand and material-technical resources. At the present time this is what happens — the demand for articles is not met, even though local facilities have free capacities and necessary materials to manufacture the needed products, because we do not have the rights necessary to carry out this work. In the interests of the overall work:

"It is essential to give territorial agencies the right to use planned material resources for additional production of underallocated output or to allocate these resources by special designation."

The use of containers and pallets has increased in the Ukraine. In the past five years this made it possible to conserve more than 20 million cubic meters of wood. In our view, it would be wise to add the following phrase to the sixth section of the "Basic Directions":

"broadly introduce the progressive technology of transporting products in containers without the use of transportation packaging, employing special attachments to secure freight to railroad cars."

The use of waste products of production offers significant opportunities for meeting the needs of industrial enterprises and construction organizations for materials. The Ukrainian SSR Gosplan has organized permanent exhibitions of waste products at the main territorial administrations.

Work directly with the enterprises has enabled us to identify millions of tons of ferrous metals and large amounts of waste chemical and lumber products and put them into circulation.

Vigorous discussion of the draft document of the CPSU Central Committee for the 25th party congress and the suggestions and desires expressed with respect to full use of resources illustrate the unanimous endeavor of the working people of the material-technical supply system of the country to fulfill their great tasks in the 11th Five-Year Plan precisely.

11,176  
CSO;1822

## ENERGY CONSERVATION

### WINTER PREPARATIONS: PROBLEMS OF FUEL STORAGE IN MOSCOW

Moscow MOSKOVSKAYA PRAVDA 30 oct 80 p 2

[Article by A. Aleksanov, deputy head of administration of Mosenergo; A. Khor'kov, deputy head of fuel and energy administration of Mosgorispolkom]

[Text] A. Aleksanov: As we know, in August the delivery of coal for capital thermal electric plants for the fall/winter period was delayed from the schedule. This was criticized by power engineers and by transportation experts. Railroad workers, for example, held up coal shipments from a southern port to the thermoelectric centers.

It should be stressed that criticism of participants of the transportation and fuel carrier was perceived correctly and conclusions were drawn. On October 28th, more coal was delivered than scheduled. There now are no grievances toward Moscow railroad workers. For shipment of coal from the southern port they provide rolling stock on demand. In October they often provide 90 cars instead of the standard 80.

But the situation developing today does not, however, justify calm. Indeed, in the heating season much coal for thermoelectric centers comes directly from the southern port. Its warehouses are faced with shipment of a tenth of the scheduled coal reserves. The complexity is now that navigation ceases 15-20 days before usual. This means that it is important not only to conserve, but also to increase the rates of coal delivery to the capital. Consequently, it is necessary to maximally speed up delivery of coal by water and railroad workers must provide additional cars.

A. Khor'kov: The capital's plants, factories and associations mainly use natural gas, whose application reduces to a minimum environmental pollution. But in severe cold, when gas consumption rises significantly, it is necessary to limit its use in industrial facilities and temporarily replace gas with fuel oil. USSR Gosplan defined a list of especially fuel-consuming Moscow enterprises which at all times should be ready to switch to reserve fuel.

Corresponding ministries must release funds for fuel oil, while enterprises must timely prepare their fuel oil management. There are many examples of responsible approaches to this important matter.

However until now completely empty tanks were found at four enterprises and incompletely filled ones at 13. Several years ago began the construction

of fuel oil management at the Ochakovskiy milk plant of the RSFSR's Minmyasomolprom. An end is not in sight for this "slow motion construction". Meanwhile, the milk plant is located in an area where the problem of gas supply is particularly severe. In past years this enterprise was threatened more than once by cutoff of gas. But neither A. Chugunov, plant director, nor the leaders of RSFSR's Minmaysomolprom learned a lesson for the future from this.

The storage tanks at the Scientific Research Institute of Rubber and Latex Items are empty (V. Berestnev, head): fuel oil management has not yet been straightened out here. The Rublevskaya Water Conduit Station (S. Yelenin, director) and the Lyublinskaya Fruit and Vegetable Office (S. Lotosh, director) have nothing to be proud about.

The end of October is nigh, but there are still no supplies at five enterprises of the Ministry of the Textile Industry of the RSFSR. The Ministry of the Light Industry of did not provide fuel oil to the Artificial Hide Plant imeni Nogin, nor the Ministry of Tractor and Agricultural Vehicle Construction to the plant Mossel'mash.

How can the situation be assessed? The way we see it, it is simply a violation by the managers of these and other ministries of the corresponding decision of USSR Gosplan on winter transition of several Moscow enterprises to reserve fuel.

From the Editors:

As can be seen from this information, things are pretty bad with the fuel supply of industry and power engineering enterprises in the capital. This causes special alarm: there is not much time left before the cold sets in. Without exaggerating, an autumn day can "heat" an entire winter week, or even a month.

For an unconditional guarantee of fuel supply, electricity and thermal energy to the national economy and housing units in the fall and winter, organs of the People's Committee of industrial, transportation and energy enterprises can do a great deal, as can the people's monitoring committee's established in the ministries.

8617  
CSO: 1822/50



## ENERGY CONSERVATION

### DELAYS IN IMPROVING USE OF KIRGHIZ COAL CRITICIZED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 18 Feb 81 p 2

[Article by A. Dzhamanbayev, doctor of technical sciences and head of a department at the Frunze Polytechnic Institute: "Superfluous Talk"]

[Text] Only a small amount of coal is mined in Kirghizia today. But this is a special problem. Our discussion today will concern the most complete and efficient ways to use the coal that is mined.

Because of their structure and the current method of extraction, more than half of the hard and brown coals produced in Kirghizia are so-called fine coal. Moreover, during storage and transportation in a hot climate the pieces of coal break into small parts. Therefore, before common coal reaches the customer more than 80 percent of it is virtually dust. Test burning of this fine coal showed that almost half of it falls through the fire grating. Thus we lose the labor of the miners, state money literally flies out the chimney, and a great deal of fuel is wasted. What can be done? The answer to this question is perfectly clear: the fine coal must be converted to chunk coal, that is, it must be made into briquettes and granules.

This is not a new problem. As long ago as 1974 the central organs of the republic asked specialists to study and develop a technology for making high-grade briquettes from the fines. The Frunze Polytechnic Institute and the head institutions of the USSR Ministry of Coal Industry, the Institute of Combustible Minerals and the Institute of Concentration of Solid Combustible Minerals, began work on the problem. Samples of Kirghiz coal were sent to East Germany for this purpose because, as is common knowledge, they have accumulated a great deal of experience with making coal briquettes.

In view of the importance of the problem, the scientific council of the USSR Academy of Sciences held a special session devoted to questions of rational use of Kirghiz coals in the city of Osh. At first the Ministry of Coal Industry was understanding in relation to this problem. In 1976 Sredazugol' [possibly Central Asian Coal Association] and the institute of Combustible Minerals drew up a plan of scientific research, experimental-industrial, and planning-design work. It was ratified by I. Blagov, chief of the ministry administration.



In 1978 the summary report "The Coals of Kirghizia and Prospects for Increasing their Efficiency in the National Economy" was written through the efforts of the three institutes. This thick document contained the results of hard, painstaking labor by many collectives. It gave recommendations and suggested industrial schemes to produce briquettes and granules from fine coal.

The assumptions and conclusions of the scientists were backed up by data from laboratory and site studies at the Zhilevo Experimental-Industrial Concentrating Factory. Test burning showed that briquettes made of Kyzyl-Kiya and Almalyk coals have a high burning temperature and water-thermal stability and are almost smokeless. The briquettes have an efficiency rating of 80-85 percent, some 10 percent higher than high-grade coal. The document emphasized again the urgency of the problem and need to organize the production of briquettes and granules from the fine coal, which was still not being used properly. Considering the varied composition and properties of the fuel, it was recommended that Sulyukta coals be made into granules and Kyzyl-Kiya and Almalyk coals be made into briquettes.

The ministry approved and ratified the joint report of the three institutes. Furthermore, it began compiling an assignment for Sredazugol' and Giproskhakht [State Institute for Mine Planning] to develop technical-economic substantiation for construction of a briquette factory. USSR Gosplan spoke in favor of compiling technical-economic substantiation for construction of such a factory.

Now, it seemed, things would get moving. Unfortunately, our hopes and expectations were premature. In mid-1979 Giproskhakht unexpectedly announced that it did not intend to do the technical-economic substantiation because this subject was not included in the work plan of the institute. This statement appeared strange, to say the least, in a situation where no one was objecting anyway. Once again the higher levels of the republic were drawn into the cycle of events. The Council of Ministers of the Kirghiz SSR addressed an appeal to step up work directly to B. Bratchenko, USSR minister of coal industry. The letter was answered by deputy minister M. Shchadov. The answer said, "In agreement with USSR Gosplan, in 1979 the Ministry of Coal Industry assigned this work to the Tsentrghiproskhakht [Central State Mine Planning Institute] and Giproskhakht."

But there was a new nuance in the deputy minister's answer. Whereas the question before had been compiling technical-economic substantiation for construction of briquette installations, the letter spoke of compiling a technical-economic report on the wisdom (?) of constructing installations. Obviously, this attitude on the part of one of the leaders of the sector had been transmitted to others. After a long silence, in late 1980 Tsentrghiproskhakht asked a very odd question: "Is there extra coal in Kirghizia?" Such a statement of the matter is hard to understand, to put it mildly. This begins to look like a debate about an established fact.

This topic is instructive because it seems that everyone agrees, no one objects, that a factory must be built in Kirghizia to produce coal

briquettes or granules. But agreement alone is not enough; practical work is needed. But this is what the USSR Ministry of Coal Industry is not doing.

In the fourth section of the "Basic Directions of Economic and Social Development" we find the following words: "Improve the quality of coal delivered to the national economy." I suggest that the following be added to this line:

"In those places where it is recognized as economically sound, produce briquettes and granules from fine coal, and use other methods of concentrating fuel."

11,176  
CSO:1822

## ENERGY CONSERVATION

### POWER OUTAGES DISRUPT LIVESTOCK FARMS IN KURGANSKAYA OBLAST

Moscow PRAVDA in Russian 23 Jan 81 p 2

[Article by A. Minayev, Kurganskaya Oblast: "Energy Supply and Losses"]

[Text] "We are milkmaids at the Rossiya Kolkhoz and have adopted stepped-up socialist obligations for the period of livestock overwintering. We believe that they are feasible. The labor of livestock workers, milking cows, preparing and distributing feed, and cleaning up manure, has been basically mechanized. The work has become much easier. And we are working hard to raise milk yields and to preserve every kilogram of milk.

"But we are hurt very much by regular interruptions of power supply. We will give just one example. On 7 December of last year the power was turned off at 1300 and not turned back on until for almost 24 hours. So we did not milk the cows (many hundreds of head) in the evening or the next morning. In all, last year the kolkhoz had more than 20 so-called "planned," and especially "unplanned," shutdowns lasting 5-10 and more hours apiece. As a result we lost about 400 quintals of milk. The situation is no better today. We ask you to look into this matter and help us."

P. Mikhalyova, Ye. Abramovskikh,  
and M. Poteryayeva, milkmaids at  
the Rossiya Kolkhoz, Shchuchanskiy  
Rayon, Kurganskaya Oblast

Shchuchanskiy Rayon where the Rossiya Kolkhoz is located is not some remote out-of-the-way place. As you drive there on the broad, smooth highway you cannot help noticing the electricity-dominated landscape. High-voltage power transmission lines with reinforced concrete supports run along both sides of the road. Further into the rayon low-voltage lines with wooden towers stretch on and on.

And there is a definite party responsible for the power system. The city of Shchuch'ye has a rayon electrical system office, an organization which

many rayon centers of the oblast do not have. Moreover, it appears that the rayon party committee is constantly monitoring the rayon power system and giving it help. During the last five-year plan the work of the power system was reviewed at meetings of the rayon party bureau three times. We must assume therefore that Shchuchanskiy Rayon suffers less from power outages than other rayons in the oblast. All the same...

"Each of our milkmaids has 60-70 cows in her group," the authors of the letter to Pravda said. "We connect the milkers to the animals and the milk flows directly through pipes to the receptacles. If there is even a brief interruption of power, it creates a vacuum, the milking machines come off the cows' udders, and the milk runs out on the floor. A great deal of milk escapes while we are cleaning the machines and fixing things up. Outages like this occur three or four times in one milking session. It creates a tense situation at the farm; after all, the animals can be spoiled. It is impossible to milk that many cows by hand."

But what happens if the power outages last hours or days? Here the consequences are much more complex. The milkmaids write that even a record setting cow who has been carefully managed for years must be written off for meat if she misses several milkings in a row. She will no longer produce milk. Last year, for example, according to the directors of the kolkhoz, some 100 cows suffered udder atrophy and were taken out of the dairy herd. Now figure the losses for all 14 farms in Shchuchanskiy Rayon, which have suffered dozens of power outages. But the kolkhozes and sovkhoses of Kurtamyshskiy, Shadrinskiy, Al'menevskiy, Vargashinskiy, Belozerskiy, Ketovskiy, Makushanskiy, and other rayons of the oblast suffer even greater losses. After all, dozens of times more power outages were recorded at their livestock farms and complexes and feed shops in 1980 than in Shchuch'ye.

Who is to blame for all this? Perhaps not even the examining commission itself could give a clear answer. The list of organizations obligated to insure uninterrupted power supply to rural working people is too large. Included are the Kurganskaya Oblast power systems, Oblsel'khozenergo [Oblast Administration for Rural Power Supply], special subdivisions of Goskomsel'khoztekhnika, Energosbyt [possibly Power Marketing Administration], and Oblkommunergo [possibly Oblast Municipal Power Supply System]. They were all formed, of course, for the purpose of improving power supply to all sectors in the oblast. But these organizations, who are affiliated with four different departments, quarrel among themselves more often than they find agreement.

They do not quarrel for nothing. Somewhere something burns out, breaks, becomes iced, or goes out of order. The managers of the kolkhozes and sovkhoses sound the alarm and call for help. While the representatives of the energy services are trying to determine who owns the insulator, wire, power panel, transformer, substation, and so on (the list runs into hundreds of objects), work stops at the livestock units and complexes. Last year the kolkhozes and sovkhoses of Ketovskiy Rayon were without power because of accidents for more than 30 days, while in Makushinskiy Rayon they lost 35 days and Kurtamyshskiy Rayon lost almost 40 days under the so-called "outage plan" (what kind of plan is that?) in addition to 20 more days because of emergency situations.

Of course, each power organization is usually able to take essential measures itself, without waiting for the consent or help of the others. There are specialists everywhere. But some electrical installation workers are not authorized to examine high voltage lines and substations, while others do not have authorization to repair low-voltage equipment. One cannot help asking why the power workers of the oblast do not combine their efforts and provide for cooperation and mutual assistance for the sake of the common goal. Unfortunately, only the working people at the local towns are thinking about such cooperation today.

A large majority of the kolkhozes and sovkhoses of the oblast receive power supply according to category No 3. This means that the power workers can switch off their power for an indefinite time and no one is responsible for it. Six or seven kolkhozes and sovkhoses are sometimes connected by a single line, and if essential planned power work is being done at one of them, the entire group is switched off. There are no back-up lines. This is what causes the large number of so-called "emergencies."

It is relevant to recall that most of the kolkhozes and sovkhoses in many rayons of the country receive power supply in category No 1, which means reliably. The neighbors of Kurganskaya Oblast, the people of Chelybanskaya, Sverdlovskaya, and Permskaya Oblasts, have solved this problem much better than the people of Kurganskaya Oblast, even though they do not have more livestock and poultry. Why is this? I examined the plans for electrification of Kurganskaya Oblast in the last three five-year plans. It was here that I began to guess the answer to the problem. Throughout these five-year plans the annual plans were never more than 60-70 percent fulfilled. This created a chronic lag in the power system, not only for agriculture but also for other sectors of the oblast economy.

The local power services are constantly being done out of equipment, personnel, and material resources. Four months ago a special order came out from USSR Minister of Power and Electrification P. Neporozhniy, entitled "The Condition and Developmental Prospects of Rural Electrical Systems in Kurganskaya Oblast." There was a great difference between what the people of the oblast asked for to meet their needs and what was left in this document. The order cut corners at every point, even though it was the first ever in the history of the oblast. There will continue to be a shortage of substations, back-up lines, emergency services, and automation equipment, that is, everything that, taken together, could insure reliable power supply from power sources (which, incidentally, are not fully exhausted in the countryside) to the actual users, the kolkhozes, sovkhoses, and livestock units. This is the whole point. The problems of oblast power supply are being solved by the USSR Ministry of Power and Electrification in parts: they put a patch in one place and a tear appears somewhere else. Often things which are planned and firmly promised remain only on paper.

The oblast party committee recently received a long distance phone call.

"Do not count on the new high-voltage line from Tyumen' to Kurgan. It will not be finished in the 11th Five-Year Plan. Our plans have changed,"



N. Shishkin, manager of Chelyabenergo [Chelyabinskaya Oblast Power System] announced.

At the same time P. Pavlov, second secretary of the oblast party committee, had on his desk a letter signed by V. Budenny, deputy USSR minister of power and electrification. The letter guaranteed that the line from Kurgan to Tyumen' would be launched in 1983. The ink had hardly dried, as the saying goes, on this promise. The same thing has happened many times. The Ministry of Power and Electrification once promised to build the Alakul'skaya State Regional Power Plant in the oblast. The design had already been drawn up when the decision was cancelled. A few years later assurances were given that the Kurganskaya State Regional Power Plant would be built. Again everything was left hanging in the air.

Kurganskaya Oblast is a major producer of meat, milk, poultry, and grain. The 11th Five-Year Plan envisions the construction and modernization of more than 100 livestock complexes and large livestock units and more than 300 feed production units, plus irrigation of 30,000 hectares of land and a significant increase in livestock and poultry. There cannot be a full return from these thoroughly considered and substantiated plans without reliable power supply. It is obviously time for the USSR Ministry of Power and Electrification to take steps at last to solve this problem quickly. The Kurganskaya Oblast party committee and executive committee will have to show greater persistence here. It is intolerable when thousands of tons of milk, meat, and other livestock products are lost for reasons that can and must be eliminated.

11,176  
CSO;1822



## ENERGY CONSERVATION

### WINTER PREPARATIONS IN VILNIUS

Vilnius SOVETSKAYA LITVA in Russian 10 Oct 80 p 2

[Article by G. Masal'ski, deputy of Vilnius city council, member of standing committee on monitoring preparations of Vilnius for winter]

[Text] The economy of a modern city is an enormous multisectorial complex requiring steadfast attention, rapid response combined with far-sightedness, scientific approach to incipient problems and, obligatorily, the ability to sense the needs and requirements of the population. In winter, demand is twice as severe. Every error, any malfunction in the very complex organism of city management in the winter becomes especially visible. Understanding this, city and regional councils of Vilnius began on time to prepare for winter, conducting a major management campaign. It should be emphasized that from year to year as the city develops, preparations become larger, more complicated and more crucial.

The question of preparedness of city management for the forthcoming cold spells is always in the sights of the Vilnius city committee of the Latvian Communist Party. A standing committee was created to monitor preparations of Vilnius for winter. In July of this year a joint session of the city committee of the party and the city executive committee was held to consider the results of the work of enterprises of industry, transportation, construction, community management during the past winter and the tasks faced in preparing for the current winter. The participants carefully analyzed all the successes and numerical errors, experience gained by the best enterprises and advanced sections of city management were employed as foundations.

A resolution was taken at the joint session: "On preparation of urban management to work in the autumn and winter of 1980-1981" which earmarked a clear plan for organizational and technical measures whose performance would ensure reliable operation of all links in the chain of urban management.

How can the resolution be fulfilled? Preparation work is now started much earlier than in previous years. /.../ all enterprises and organizations, committees have been set up to monitor the course of repair works, material and transportation. Deputies of local soviets and groups of people's control, urban and regional committees of have done a great deal. Patrols have spent time at many enterprises and in city organizations and found some deficiencies in preparation of energy management, delays in performance of repair of thermal junctions, equipment and building heating.

It is gratifying that things are now being done at enterprises which were poorly prepared to work under winter conditions last year. Take for example the Komunaras plant. The plant committee on preparation for winter strictly monitored performance of the earmarked measures and consequently all work was completed by the start of the heating season. The position at the preserves plant was corrected: they replaced obsolete worn-out equipment which led to a reduction in steam losses, and the question of recovering condensate was resolved.

Work was done strictly on schedule to prepare thermal energy users and urban thermal management.

In the course of preparation for the winter of 1980-1981, in some medical, school and preschool institutions they repeated the deficiencies that occurred last year. This was discussed at a session of the permanent commission held in late August. Credit must be given that most leaders of institutions made the correct conclusions and quickly corrected most situations. But by the start of the heating season a third of thermal junctions in hospitals and polyclinics were not functionally ready for connection to the thermal networks.

The unjustified sluggishness in beginning work to prepare for winter was revealed by leaders of the republican children's hospital, VD skin clinic, Vilnius disinfection station, middle school #15, day-care centers #87 and #101. At the children's hospital they knew what had to be done and a specific plan was drawn up to prepare for winter, while at other organizations there was not even a plan.

Now due to intervention of the permanent committee, preparations at these enterprises has begun to level out. Many critical remarks were made in the address of the urban repair construction association, which handles the bulk of repair and preventive work to prepare thermal junctions for winter, as well as repair of schools, day-care centers and hospitals. This criticism is valid.

Of course a mandatory condition for good preparation for winter is the guaranteed provision of the people with fuel in adequate quantities. In order to solve this question as best as possible, workers of urban fuel office drew up lists of homes with furnaces, established strict schedules for client servicing. Since January 1, 1980 standards of fuel deliveries have been introduced based on occupied living area. Orderly sale of fuel permitted elimination of the lines for ordering and receipt.

In preparation of living accommodations for winter it is impossible to forget importance of efficient consumption of all energy resources. Of course in the economy of fuel a major role belongs to the people. Only as a result of correct heating of quarters, especially balcony doors and windows, can a city save hundreds of car-loads of coal in a single season.

Timely preparation of enterprises and organizations, living and communal management for work in winter is an urgent task. To fulfill all work in shortest period, without slowing down to make up for omissions—such is the vital task of the day. Thus today it is very important to mobilize all efforts to solve this problem.

## ENERGY CONSERVATION

### PARTY URGES ENHANCED RELIABILITY OF ENERGY SUPPLY

Moscow MOSKOVSKAYA PRAVDA in Russian 25 Oct 80 p 2

[Text] At the CPSU Ministry of State Control a meeting of the party management active members was held at which the question of tasks of party, soviet and management organizations of Moscow to step up work to enhance the reliability of energy supply of the national economy in the fall and winter of 1980-1981 were discussed.

L. A. Borisov, secretary of the CPSU Ministry of State Control gave a speech.

V. V. Vinogradov, secretary of the Soviet Rayon Committee of the CPSU spoke at the meeting, as did F. G. Matsak, director of the machine construction plant imeni Kalinin, I. Ye. Baslyk, manager of the Mosenergostroy association, N. I. Serebryannikov, head engineer of Mosenergo, A. A. Zhuravlev, chief of the Administration of Fuel and Power System Management and Yu. I. Zhitenev, deputy head of the Moscow Railroad.

In the report and speeches at the meeting it was noted that the Central Committee of the Party and the USSR Council of Ministers attribute exceedingly important value to problems of reliable and stable energy supply of the national economy in the forthcoming fall and winter of 1980-1981.

This has a direct relationship to Moscow, to work in this direction of party, soviet, management, trade union and komsomol organizations of all sectors of the city's national economy.

Not long ago the bureau of the CPSU Ministry of State Control considered the question of readiness of the city for the winter of 1980-1981 and noted that regional committees of the party, party organizations, executive committees of raysoviets, leaders of enterprises of industry, construction, transportation and urban management had done some work to prepare the city energy management, industrial enterprises and construction sites, vehicle and railroad transportation, housing and recreational facilities for operation under winter conditions.

One of the major conditions for reliable and stable operation of electrical power plants and industrial enterprises in the forthcoming winter is the creation of the necessary fuel reserves. At the present time in the warehouses of Moscow thermal electric centers and the Southern River Port, enterprises and organizations of the Moscow city executive committee, and also in suburban Moscow gas tanks are established planned reserves of coal, fuel oil and natural gas. But it is troubling that at some industrial enterprises which switch to reserve fuels when necessary (furnace oil), planned reserves of this kind of fuel have yet to be created.

Moscow is the largest consumer of fuel and to maintain necessary operating reserves in the forthcoming fall and winter requires hourly delivery to the city of hundreds of railroad cars and tanks containing coal and fuel oil. Thus joint efforts of transport workers and energy workers of the city must maximally reduce nonproductive shutdowns of rolling stock, unloading time of railroad cars and tanks.

Moscow energy workers, it was noted in the report and speeches, mainly prepared electrical power plants, thermal and electrical workers for operating in winter. At the same time repairs are still not complete on several water heating boilers, turbine generators and energy boilers. Particular concern is caused by the flow of work on preparation for winter of primary and auxiliary equipment at the thermoelectric centers #11, 12 and 20, as well as some other TETs which furnish heat to many regions of the city.

Leaders of Mosenergo, electric power plants, thermal networks and other subdivisions must understand the entire responsibility of tasks imposed on them.

In this year the national economic plan stipulates putting energy plants into operation at the # 25 TETs and "Yuzhnaya". Furthermore, at the #23, 25 and "Yuzhnaya" TETs water heating boilers are being installed. At electrical substations transformers of overall capacity of 815,000 kW should be installed. New trunk lines are being laid in thermal networks.

But the state of affairs in start-up facilities of this city, it was stressed at the meeting, can not be satisfied. The associations Mosenergostroy and Mosenergomontazh have been working at # 25 TETs behind schedule. The state of affairs is even worse in the construction of the "Yuzhnaya" TETs, where erection of the energy plant is almost two months behind schedule.

An entire series of shortcomings and omissions takes place in preparation for winter of urban engineering communications. Glavmoinzhstroy does not replace dilapidated sections of gas conduits nor assures assembly of gas distributing substations on time. Large thermal trunk links are laid slowly. Erection of the Biryulevskaya thermal trunk line and reconstruction of thermal networks from TETs #22, upon which depends stable heat supply of housing facilities in the Krasnogvardeyskiy, Sovetskiy, Lyublinskiy and Perovskiyy rayons, are proceeding at particularly unsatisfactory rates. Glavmosstroy has permitted lags in erecting the second phase of the rayon thermal station "Strogino". Glavmospromstroy has lagged in constructing collector and thermal networks in Zelenograd.



Preparation for operation under winter conditions of industrial enterprises and construction sites, vehicle and railroad transportation, housing facilities are going along smoothly. Furthermore, it was noted at the meeting, that it is disturbing that some enterprises and organizations are falling behind in carrying out steps to prepare industrial facilities for winter. Shortcomings in preparation of industrial areas to operate under winter conditions have been noted in plants of knitting machine construction, ship building and ship repair, bread plant #9, in the #2 and #10 taxi and motor pools and others.

At the Elektrosvet plant, at the Zvezdochka factory, at the #9 autobus and #7 trolleybus pools and at several other organizations there are serious omissions in preparation for winter of thermal routes and local boiler plants.

In the reports and speeches it was also indicated that much is being done to observe conditions of economy of fuel and energy resources, state discipline in fuel requirements and electrical energy and heat in the city.

Crews of the plants of automotive construction imeni Leninskiy komsomol, Karacharovskiy mechanical, "Kompresor", subway imeni V. I. Lenin and others are meeting economy obligations. Work on efficient consumption of fuel and energy resources is going along well at crews of industrial enterprises of the Dzerzhinsk, Krasnogvardeysk, Krasnopresnensk, Proletarsk, Timiryazev, Cheremushkin and some other rayons. Most industrial crews have well thought out obligations to reduce consumption of fuel, electrical and thermal energy. Many workers are tallying personal accounts of economy, carefully considering spent energy resources.

As a result of work done to enhance efficiency of utilization of fuel and energy resources, according to tentative data, more than 450,000 kWhr of electrical energy and about 370,000 tons of conventional fuel have been saved in 9 months of this year in the city: this corresponds to the socialist obligations adopted.

At the same time, at some plants and factories, in some construction and transportation organizations, scientific institutions, due attention is not given to problems of careful consumption of energy and fuel. It is totally inadmissible, it was stressed at the meeting, for some enterprises to systematically violate the discipline of observing fixed limits and norms of consumption of electrical energy and fuel in the face of acute deficits of fuel and energy resources.

At some enterprises due attention is not given to economic consumption of thermal energy. At the Moscow TETs each year 20,000 tons of conventional fuel are consumed to produce thermal energy for the needs of industrial enterprises. This is a large number. And it suggests how important it is to judiciously and economically utilize thermal energy at every plant, factory and construction site.

Some industrial enterprises continue to use steam for heating and hot water supply. Among these are the Dorogomilovskiy chemical plant, the silk combine imeni Sverdlov, the combine "Trekhgornaya manufaktura", the cotton and paper factory imeni Prunze. It is high time for the managers of these enterprises to switch heating and cooling systems from steam to thermoelectric

water.

Some ministries, it was noted at the meeting, set exaggerated specific norms of fuel and energy consumption for enterprises per unit output. This leads to the frequent absence of norms of thermal and electrical consumption at some enterprises and shops and sections, and consumption of energy for technological purposes is not evenly accounted. Consequently, significant overconsumption of fuel and energy resource is permitted. This relates to the plant of technical photographic plates, ZhBI-23, Likhoborsk plant of thermal insulation and finishing materials and others.

In the city there are many enterprises in which natural gas is efficiently used. For example, at the plants "Serp i molot", "Krasnyy bogatyr", Karacharovsk mechanical and some other enterprises. But at many industrial enterprises, including the plants GPZ-1, "Transmash", electromechanical #1, association "Mosdrev", work on saving natural gas is still being poorly managed.

One of the major factors for reliable supply of the growing needs of the national economy for fuel and energy, enhancement of efficiency of public production is the attraction into production of secondary energy resources. At every enterprise and organization it is necessary to elaborate additional measures for fuller utilization of secondary energy resources to meet the needs of enterprises for fuel and energy to the highest degree.

The CPSU Rayon Committee, executive committees of raysoviets, party committees and bureaus, management leaders of enterprises and organizations, it was stressed at the meeting, must take steps to complete all work related to preparation of enterprises of power engineering, industry, transportation, construction, urban management to operate under winter conditions.

Management leaders of enterprises and organizations must raise the organizational level and discipline in all links of the production chain to assure uninterrupted and reliable operation of enterprises under winter conditions.

The CPSU Rayon Committee, executive committees of raysoviets, party organizations strictly monitor measures every day toward reliable energy supply of the national economy of the city. To intensify organizational work on mobilization of labor crews to firm up fuel and energy resource economy, to more fully utilize secondary energy resources. To leave no stone unturned in finding excessive use of energy. To attract to responsibility leader of enterprises and organizations for lack of management and waste of fuel and energy.

Work of the committees should be activated to save fuel and energy resources.

An important role in assuring strict conditions of fuel economy and all kinds of energy is to be played by organs of national monitoring.

Participants of the meeting were certain that party, soviet and trade union organizations, management leaders of enterprises of the city will do everything necessary for reliable energy supply of the city's national economy in the coming fall and winter, efficient and careful utilization of fuel and



energy resources. Fulfillment of these tasks will create the necessary conditions for successful performance by labor crews of the 1980 and five-year plan as a whole, and will meet the new industrial achievements of the 26th Congress of the CPSU.

8617  
CSO: 1822/50

## ENERGY CONSERVATION

### SAVING FUEL, ENERGY IN MOLDAVIA

Kishinev SOVETSKAYA MOLDAVIYA in Russian 4 Nov 80 p 2

[Article by M. Gostev, head of the division of distribution and monitoring of Energosbyt, Kishinev: "Meeting the Cold"]

[Text] It isn't necessary to prove the value of an uninterrupted energy supply for the national economy, especially in the fall and winter, when fuel, electricity and thermal energy demand sharply increase, and operating and reliable conditions of energy equipment deteriorate. This is a complex and most responsible period in the operation of energy systems and energy services of enterprises, kolkhozes, sovkhoses and other organizations.

What lessons did last year's fall and winter teach us? It was especially harsh, but the national economy was fully provided with the necessary amount of electrical and thermal energy. This was facilitated by the significant improvement in the work of energy services of many enterprises which were really concerned with saving energy, observing fixed plans and conditions of energy consumption. The operational discipline was greatly improved and monitoring of the consumption of electrical energy was stepped up; energy equipment was better prepared for operation in the fall and winter.

Now, in summing up what has been done, we can say that the enterprises of Kishinev, Tiraspol, Bender have passed the fall and winter peak. Worthy of note are the Kishinev and Belz combines of bread products, Tiraspol' plant "Elektromash", Orgeyevsk furniture factory, Bender plant "Moldavkabel", Belz fur combine and other enterprises.

The crew of the Kishinev combine of artificial furs and the RTI imeni M. I. Kalinin in the second quarter of 1980 alone saved 569,000 kilowatt hours of electrical energy, or 6.1 percent of total consumption, as compared to planned norms of specific consumption. The crew of the Belz fur combine in the second quarter of 1980 saved 106,000 kilowatt hours of electrical energy and 339 gigacalories of thermal energy. These savings were achieved by raising labor productivity and introducing elaborated organizational and technical measures.

But the level of operation to find reserves of economy of electrical and thermal energy did not meet the requirements everywhere. At many enterprises, in kolkhozes and sovkhoses, housing and recreational organizations,

trade enterprises permitted waste and lack of management. Serious deficiencies were permitted in norming the consumption of energy, organizing monitoring of utilization. In the first six months of 1980 alone more than 40 industrial enterprises exaggerated specific norms of electrical consumption.

Most enterprises and organizations of the ministries of culture, trade, higher and middle special education, the Council of kolkhozes of the Moldavian SSR were given unjustifiably exaggerated limits of consumption of electrical energy. As we know, this does not stimulate the struggle for caution. At the same time no work was done by users to economize where there were no limits of consumption. How this is shown in the results can be seen in the example of the executive committee of the Oktyabr'skiy rayon council of people's deputies of Kishinev which did not provide limits of consumption to its organizations and they not only did not fulfill assignments to reduce energy consumption in the first six months of this year, but even over-consumed more than a million kilowatt hours.

The interests of business require that the limits for electrical energy be reduced for all users, regardless of their agency affiliation and consumed quantity of electricity. They are already considering this.

The most energy-intensive group of users of the Moldavian energy system, especially in the fall and winter when livestock breeding areas, hothouses and steamers are heated, are the kolkhozes, sovkhoses, and sovkhos plants. Considerable reserves of economy are hidden there. An example can be given. The kolkhoz "Moldova" of the Dondyushanskiy rayon heated the soil of steamers and hothouses with about 60 kilowatts of electricity before the onset of the frosts. Why? The soil heating time was reduced from 7-10 days down to two, saving 90,000 kilowatt hours of electricity. In addition, at the kolkhozes "Pravda" and "Put' kommunizma" of the same rayon the soil was not heated and more than 400,000 kilowatt hours were wasted in reheating the soil. Each year at kolkhozes and sovkhoses of the republic up to 50,000,000 kilowatt hours of electricity are wasted in inefficient reheating of the soil.

What then prevents a reduction in the amount of nonproductive consumption to the minimum? First, an irresponsible attitude of certain leaders of sovkhoses and kolkhozes to electrical energy which is given to these managements at cut rates, below cost. Second, the lack of specific norms of consumption of electrical energy for production of seedlings and vegetable cultivation. Third, providing kolkhozes and sovkhoses with exaggerated limits of electrical energy consumption and possible correction at almost any time.

Assurance of economic consumption of electrical energy in steamers and hothouses does not require very much. They must first be prepared for use by heating up areaways, eliminating all kinds of heat leakages, taking steps against soil freezing, covering it with straw, reed mats or leaves, drawing up a schedule of heating turndown during energy peaks, timely fitting of steamers and hothouses with automatic thermostats.

Work to save fuel, electrical and thermal energy must be done every day. Wasteful consumption of heat and electricity must not be permitted; organizational and technical steps must be taken to observe fixed specific norms of consumption and assignments for additional savings, to observe fixed

limits means to achieve accumulation of fuel for the winter.

Many enterprises have taken steps in time to reduce consumed power during peak loads, refined energy consumption conditions. This permits these enterprises not only to maintain the fixed power limits, but also to reduce wasted energy.

At the same time managers of some enterprises, instead of trying to find ways of reducing load, improve operating rhythm, arranging energy consumption, direct their efforts at increasing their consumption limits and power limits.

Much attention in preparation of energy management for winter must be given to increasing the reliability of energy supply. This requires performance of all requirements of the energy inspection aimed at improving the technical status of energy equipment, guaranteeing trouble-free operation. Particular attention should be given to perfecting electrical supply circuits to assure reserve power for the most responsible current recipients. The absence of this reserve usually leads to sudden emergency cutoffs of individual enterprises, which suffer material damage.

A deciding role in preparation of energy supply for fall and winter is played by management leaders, party, komsomol and trade union organizations. Practice shows that wherever they really lead the creative search for the worker and technical engineering workers, struggle every day for economical consumption of energy resources, perfection of consumption conditions and increased reliability of energy supply, the enterprises encounter the winter in a high state of readiness.

Preparation of the national economy for energy supply in the cold period is an important state problem whose solution will enable successful completion of the 10th Five-Year Plan and will give a head start on the 11th one.

8617  
CSC: 1822/50

## FUELS

### PROGRESS, PROMISE OF GAS INDUSTRY REPORTED BY INDUSTRY OFFICIAL

Moscow KRASNAYA ZVEZDA in Russian 24 Jan 81 p 2

[Interview with Deputy USSR Minister of Gas Industry Sergey Stepanovich Kashirov: "The 'Blue-Flame' Industry"]

[Text] The CPSU Central Committee's draft called for high rates in developing the country's gas industry. In 1985 the amount of natural gas recovered should be 600-640 billion m<sup>3</sup>. At the request of KRASNAYA ZVEZDA's correspondent, Deputy USSR Minister of Gas Industry Sergey Stepanovich Kashirov tells how the plan contemplated will be implemented.

"The great importance of the use of natural gas in the national economy is well known. The chemical industry obtains high-strength synthetic fiber from it. Metallurgists use natural gas in open-hearth and blast furnaces. Conversion to smokeless gas fuel frees cities and towns from soot and coal dust, which are inevitable with the operation of electric-power plants and other industrial enterprises that are fueled by coal, mazut or peat. Two-thirds of the urban and half of the rural population of the country uses natural gas today. By heating greenhouses it hastens the maturation of vegetables, and on farms it is used in livestock and poultry departments and for drying grain and cotton. In brief, it is difficult to overestimate the importance of natural gas to the national economy.

"Everything becomes familiar by comparison. In order to understand how rapidly we are developing our 'blue-flame' industry, let us recall this fact. At the start of the 1930's four gas fields with reserves of about 200 million m<sup>3</sup> were known in the country. Gas recovery was meager--10-15 million m<sup>3</sup> per year. In 1940 it had reached more than 400 million m<sup>3</sup>, through the development of gas fields in the Ukraine. In the bleak war years, the State Defense Committee adopted a decision to build the first long-distance arterial gas pipeline, from Saratov to Moscow. In less than 2 years the line had gone into operation. After that the gas pipeline of the greatest diameter for that time, the Bukhara-Urals line, and the Orenburg complex, with a total capacity of 45 billion m<sup>3</sup> per year, were built.

"But no single gas-recovering region has known such vigorous development as West Siberia. Comparatively recently the explorers of the earth's depths discovered the Berezhovskoye field in Tyumenskaya Oblast, then the Medvezh'ye and Urengoy fields. And now the share of this region in All-Union gas recovery has reached more than



37 percent. (In 1965 it was about 2.6 percent). In a severe district of swamps and permafrost, 155 billion cubic meters of natural gas are being recovered.

"The first stage of the program for the integrated conquest of the underground stores and development of the district's industrial capacity, where more than 50 fields have been discovered, has ended. Installations for the integrated treatment of gas have risen up in Siberia's expanses. Much experience in developing fields in the country's north has been built up. Large gas reserves and high formation pressure have enabled large-diameter wells to be used at Medvezh'ye and Urengoy and a previously unprecedented concentration of capacity for the recovery and industrial gathering of gas to be achieved.

"All this is a good base for developing West Siberia at the forthcoming but still more complicated stage of its development. The new gas fields that are to be conquered are situated in uninhabited localities in the Far North that are difficult of access. While 20 years ago the average distance for transporting gas in the USSR was 607 km, today gas of the Tyumen' deposits travels about 2,400 km. By the end of the 11th Five-Year Plan gas recovery in West Siberia should be 300-360 billion m<sup>3</sup>. In this case, the capacity of one central stream (Urengoy-Nadym-Punga-Nizhnyaya Tura-Perm') will grow to 118 billion m<sup>3</sup> versus 39 billion m<sup>3</sup> in 1980.

"The grand tasks that the party and government have set for gas producers have occasioned strenuous plans also for the explorers of the earth's depths up north. During the new five-year plan the current pace of penetration of rock will grow 6-fold!

"Much work is to be done to create modern automated systems for controlling gas-recovery processes. In 1981 the industry's first system of this type will go into operation at the Medvezh'ye field. Then such systems will be established at the Urengoy, Vyngapurovskoye and Yamburgskoye fields. All the main West Siberian fields are to be equipped with remote-control systems and equipment for the analysis of wells. Then they will be merged into a single automated system of the kray's regional production complex. Automation, remote control and modern computer equipment will enable the fields to be developed zealously and economically. By maintaining optimal conditions and regimes for operating the deposits, gas recovery will grow by 2-3 percent, and the period for the withdrawal of gas at the fields will be lengthened. Moreover, losses of gas during transport will be reduced and the gas supply's reliability will be raised.

"The last months of the 10th Five-Year Plan have been marked by shock work. One day in September the meters at the Medvezh'ye field recorded 294 billion m<sup>3</sup> of natural gas--the oilfield's workers have recovered that much since the start of the five-year plan.

"The stalwarts of socialist competition in the branch are, as always, soldiers of the reserve. We are justifiably proud of Heroes of Socialist Labor Yu. Vyshe-slavtsev and P. Shcheblykin, drilling foremen R. Partibayev, I. Rybchich and F. Veliyev, and many others.

"The north of Tyumenskaya Oblast has been announced as an All-Union Komsomol Shock-work Construction Project. Youths are arriving here from all corners of our immense motherland. Among them are many former soldiers. But still there are not



enough workhands here. In the north they are waiting for reinforcements. And there is no harm if the new arrivals do not have a trade at first. One can be obtained at many of our training-course combines without one's leaving the job. Tyumen'--a land of romance and inspiring heroic labor--awaits you, soldiers of the reserve!"

11409

CS0: 1822

## FUELS

### THAWING RETARDS PROGRESS ON URENGOY-MOSCOW GAS PIPELINE

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 10 Feb 81 p 1

[Article: "The Schedule for the Shockwork Project"]

[Text] A commentary on the summary of progress [not included here] in pipelaying operations as of 8 February:

	Task per week (km)	Actual	Remaining to complete the project
Tyumenskaya Oblast.....	56.1	49.6	35
Komi ASSR.....	53	34	99
Vologodskaya Oblast.....	69.1	37.5	124
Yaroslavskaya Oblast.....	89.8	34.5	144
Vladimirskaya Oblast.....	5	7	10.3
Moscow Oblast.....	23.5	16.2	83
Total for the construction project.....	296.4	179	495

The length of the arterial that has been welded into a strand is 2,500 km. During the past week the daily increment of insulating and laying operations reached an average of 25 km for the route. The Gryazovets-to-Moscow terminal section has been readied for blow-through. The underwater crossing of the Kanal imeni Moskva has been laid, and preparatory operations for pulling a siphon across the Volga are being completed.

February is on the calendar, but winter has not yet come into its own over the entire length of the route from Urengoy to Moscow, and everywhere there is persistent thawing. An especially complicated situation has prevailed in Vologodskaya, Yaroslavskaya and Moscow oblasts. All-terrain equipment sinks in the swampy sections and on the staked-out roads. Frequent falls of wet snow with rain prevents insulating and laying operations. In order to keep these most difficult natural and climatic conditions from slowing the pace, round-the-clock work on a continuous schedule has been introduced everywhere. Additional measures for moral and material incentives for competition participants have been worked out together with the central trade-union committee.

Workers on the route are opposing the climate's caprices with a high degree of organization and mastery of skills. Advanced brigades and flow-line-construction teams of Heroes of Socialist Labor I. Davydenko and Z. Shaykhutdinov, USSR State

Prize winner B. Diduk, Ye. Barauli, a veteran of this industry, and many others are working under the "workers' relay race" slogan: having carried out their tasks, they are going to the aid of their comrades.

As work is completed on individual pipeline sections, the sections are converted to operation and are connected to the country's gas-supply system. Length of the operating portion of the gas pipeline has reached 1,200 km. The next section, 300 km long, is at the stage of blow-through and testing.

The gas pipeline builders hope that oblast organizations and subcontracting agencies will increase assistance in the rehabilitation and upkeep of main roads and that RSFSR Goskonnefteprodukt [State Committee for the Supply of Petroleum Products] will increase the delivery of fuel and lubricants.

11409

CSO: 1822

## FUELS

### PROGRESS IN TURKMENIA'S GAS UTILIZATION TRACED

Ashkhabad TURKMENSKAYA ISKRA in Russian 14 Feb 81 p 3

[Article by First Deputy Chairman of the Turkmen SSR Goskomitet [State Committee] for Gas Utilization V. A. Shekhter: "Turkmen Gas Lines"]

[Text] In December 1976 the Turkmen SSR Goskomitet for Gas Utilization was formed, with the creation of which the work of this branch of the national economy acquired a more purposeful nature. Quite good successes have been achieved in a comparatively short time.

First Deputy Chairman of the TSSR [Turkmen SSR] Goskomitet for Gas Utilization V. A. Shekhter tells about the system for the republic's gas activity, the stages of and the prospects for its development, and about the thoughts that stimulated the draft of the "Basic Directions."

The second half of the 1950's is considered to be the start of the planned utilization of the republic's gas. It was then that the installation of gas plates that burned bottled gas was started in workers' apartments in Ashkhabad, Krasnovodsk and other cities. Natural gas came to Ashkhabad in 1967. Later it began to be used by residents of Tashauz, Mary, Krasnovodsk, Berzein and the republic's rural regions.

Each year the number of consumers who use natural gas grows in the republic. In the 10th Five-Year Plan alone more than 35,000 apartments and 60 enterprises and boilerhouses converted to natural gas. More than 57,000 gas appliances for bottled fuel were installed and 475 km of feeder and apartment gas lines were put into operation. During this same period the total volume of the gas-tank inventory at feeder stations in Ashkhabad, Chardzhou, Mary and Tashauz had increased from 650 to 2,168 m<sup>3</sup>, which will enable the necessary reserve of bottled gas to be created.

The republic's gas business is today a complicated and ramified system with numerous services. It includes five production associations for gas utilization and gas supply in the cities of Ashkhabad, Mary, Chardzhou, Tashauz and Krasnovodsk, the mezhgorgas at Nebit-Dag, an operating-equipment outfitting administration, construction and installing administrations, a PMK [mobile mechanized column] and others. The total amount of contracted construction and installing work done in the republic was more than 6.5 million rubles. Today 1,129 km of gas grid have

been laid in the republic, and 197 of the republic's boilerhouses and industrial enterprises have converted to natural gas. Bottled and natural gas has been provided to 426,000 apartments, of which more than 103,000 have natural gas. The amount of natural gas consumed by the republic's economy and population is more than 3 billion m<sup>3</sup>, for bottled gas it is more than 52,000 tons. This much gas yields an amount of energy for the production of which more than 100,000 railroad cars of high-grade coal would be required.

In March 1979 the Turkmen SSR Council of Ministers approved a scheme for the republic's gas utilization that was developed by Uzgiprogaz (Uzbek State Institute for the Design of Gas Pipelines and Gas Industry Enterprises). It has set the basic directions for our work for the next 15 years, the realization of which will enable the effective use of piped gas, especially for household use, improve the republic's fuel balance, and exert a favorable influence on preservation of the environment.

In the countryside, for instance, those settlements that have the greatest production workload will get gas first. Gas utilization of cotton driers, hothouses and many other sections of agricultural production will yield the greatest benefit.

During the 11th Five-Year Plan 115,000 apartments, including 17,000 in the countryside, will get gas, and 132 km of intersettlement gas pipelines will be laid. During this same time Mingazprom organizations that are located in the republic should build 12 and rebuild 3 gas-distribution stations.

For these purposes, Turkmen SSR must allocate more than 135 million rubles for capital investment and 33,000 tons of pipe, almost double what was called for in the Tenth Five-Year Plan.

At the end of the 11th Five-Year Plan 50 percent of the population will be served by natural gas.

In order to achieve these goals, the republic's ministries and departments must radically reexamine their attitude toward the conversion of subordinate enterprises to natural gas. It is necessary to achieve the timely placement of orders for gas equipment and to prepare design and budget-estimating documentation. Local party and soviet organs can and should do much in this respect. Gas utilization staffs under the city ispolkoms must decisively take upon themselves the function of coordinating all the operations, participate more actively in making up long-range plans, and take administrative measures against supervisors of enterprises that do not resolve in good time questions associated with converting the facilities entrusted to them to natural gas.

The work of the gas services will be raised to a higher level during the new five-year plan through mechanization and the introduction of new equipment and remote control. The number of emergency calls will be reduced.

In conclusion, in reflecting on the CPSU Central Committee's draft for the 26th congress, "The Main Directions for Developing the National Economy During 1981-1985 and During the Period up to 1990," I consider that /"the time has come when it is urgently necessary to create in the country a single organ that would be in charge of all work linked with gas utilization in cities, rayon centers and the countryside. This would permit gas's contribution to the creation of the material and equipment base for communism in our country to be increased." [in boldface]/

## FUELS

### NATURAL GAS SAVING MEASURES SUGGESTED

Moscow PRAVDA in Russian 2 Feb 81 p 3

[Article by N. Fedorov, General Director of VNPO Soyuzpromgaz (All-Union Science and Production Association for Gas Utilization): "The Economical Flame"]

[Text] Natural gas. Its use yields great economic benefits and improves the people's working and living conditions. The draft of the "Basic Directions" poses the tasks of boosting natural gas recovery during the 11th Five-Year Plan and of bringing its volume up to 600-640 billion m<sup>3</sup> in 1985. Practically all subdivisions of the "Basic Directions" point to the necessity for the economical use of resources, for a reduction in the consumption norms thereof, and for speeding up the development and introduction of energy-saving technology and equipment.

In recent years specific gas consumption has been reduced in metallurgy, machine-building, the building-materials industry, power engineering and other industries.

However, there are reserves for saving gas at most enterprises, and especially by municipal and household users. An analysis of its use confirms this. Thus, for heating metal for forging and stamping, average specific gas consumption at Mintyazhmash [Ministry of Heavy Machine Building], Minstankoprom [Ministry of Machine Tool and Toolmaking Industry], and Minkhimash [Ministry of Chemical and Petroleum Machine Building] enterprises is almost double the figures achieved at the best units.

Many furnaces for reheating and thermal hardening of metal that are in operation are obsolete. The heat of spent gases is not used. Many gas-burner devices do not have means for automatic regulation. The setting of norms for and the reporting of gas consumption have not been established satisfactorily. Meanwhile, work at optimal regimes alone can save the national economy at least 4 billion m<sup>3</sup> of gas per year.

It is important to modernize systematically equipment that uses the energy of gas. The All-Union science and production association Soyuzpromgaz, industrial enterprises and the institutes of a number of ministries are nowadays creating modern designs for equipment for various types of boiler units, curing ovens and melting and reheating furnaces. The use of this equipment will enable gas consumption and capital investment to be reduced.



Energy expenditure is being decreased 30-50 percent with the preheating of metal in furnaces for high-speed reheating. Modern systems for gas reheating and means of automation are being used in furnaces that operate at, for example, the Kuybyshev Metallurgical Plant imeni V. I. Lenin. These furnaces are more productive and provide high-quality metal.

The direct use of gas in heat processes leads, as a rule, to a reduction in specific fuel consumption. For example, at ZIL [Moscow Motor-Vehicle Plant imeni I. A. Likhachev], VAZ [Volga Motor-Vehicle Plant], KAMAZ [Kama Motor-Vehicle Plant] and other plants where electrical resistance elements have been replaced by gas reheaters it is being cut to less than half.

A considerable saving of fuel (from 10 to 50 percent) can be achieved by using the heat of exhaust gases for drying products, for reheating water and air, and for warming buildings. In greenhouses that are heated by the exhaust gases of compressor stations, tens of thousands of tons of fresh vegetables can be grown in a year. Gas is used with great effectiveness for preserving agricultural produce.

About 300,000 industrial installations and units require natural gas. An analysis has indicated that its specific consumption is reduced by 25-70 percent for various processes. In the near term an actual saving of 40 billion m<sup>3</sup> per year can be achieved--the capital required being one-half to two-thirds less than that required to recover and deliver an equal amount of gas to the customer.

Despite the enormous amounts of gas being consumed, gas-using equipment is being manufactured right now at nonspecialized enterprises of various branches of industry. In our view, the creation of a large plant for the production of gas-using equipment in the city of Fastov, Kiev Oblast, should play a large role in solving this problem. The startup complex here was supposed to be introduced into operation back in 1979. Unfortunately, construction by UkSSR Minpromstroy (Ministry of Industrial Construction) and UkSSR Minmontazhspektstroy (Ministry of Installation and Special Construction Work) is being accomplished slowly. Meanwhile, delay in introducing the enterprises into operation involves a loss of billions of cubic meters of gas.

I consider that the plant must be put into operation at full capacity in the near future. For this purpose, the amount of construction work both for the plant's facilities and for the housing and personal amenities complex should be greatly increased.

During the last three five-year plans, the country's conversion to gas has proceeded at a rapid pace. In order that this conversion may continue to be rapid also during the new five-year plan, it is necessary to supply the industry more actively with modern and economical equipment. In considering the role of natural gas in the country's fuel and power balance, it is desirable to supplement the draft of the "Basic Directions" with the following sentence: /"Create within a short time a production base that will provide for the series output of modern industrial gas-using equipment and appliances and means of automation in amounts that will correspond to the pace of gas recovery that has been achieved and is being planned."  
[boldface]/

The indisputably high qualities of natural gas create in some workers the false impression that it is a "cheap fuel." A substantial amount of gas is being used

without meters. During sharp temperature drops this leads to uncontrolled, unmonitored gas consumption. This creates a situation in operation of the gas grid that threatens a cutoff of gas delivery to the people of cities and settlements and to chemical enterprises.

In order to raise the responsibility of enterprises to observe fuel consumption regimes, a rule has been introduced under which the price for gas that is expended above the established ceilings during the fall and winter period is increased 5-fold. However, in considering the low prices for gas, these punitive sanctions should be exacted through the enterprises' incentive funds. It is evident that further connections to the gas network of equipment that does not satisfy the requirements for the economic and effective use of gas should be curtailed and existing equipment should be modernized.

11409

CSO: 1822

## FUELS

### PROGRESS, PROBLEMS IN UZBEKISTAN FUEL, ENERGY COMPLEX NOTED

Tashkent KOMMUNIST UZBEKISTANA in Russian No 1, Jan 81 pp 31-38

[Article by P. Savchenko, Doctor of Economic Sciences: "Problems of Improving the Uzbekistan Fuel and Energy Complex"]

[Text] In the last decade the world's attention was steadily focussed on global problems of modern times, especially energy and ecological problems. The energy crisis that encompassed a number of developed capitalist states in the early 1970's caused a chain reaction of negative, far-reaching socioeconomic consequences in the bourgeois world and noticeably exacerbated the relationships between the oil importing countries and the oil exporting countries. The quickly formulated energy independence programs that were aimed at rapid reconstruction of the energy balances did not yield the expected results. The demand of the developed capitalist states for imported oil not only did not decline, but significantly increased. This caused a reorientation of their domestic and foreign energy policy. Preserving their national resources, they made their foreign energy policy more stringent. It began to be manifested as threats, blackmail, and pressure of military and ideological psychosis. The world was intimidated with an energy shortage, overpopulation and depletion of the raw material resources of our planet, ecological catastrophe, and in the final analysis, death of civilization.

There is no doubt that it is an urgent problem to find an effective solution to questions of energy and environmental protection. In this respect, the problem of interstate regulation and control of production, distribution and use of energy resources, as well as the processes of society's effect on nature that would not cause conflicts between countries and ecological crises is exceptionally important.

In his time, F. Engels, bearing in mind the need to consider and regulate the individual consequences of man's effect on nature, wrote: "Implementation of this regulation requires nothing more than simple knowledge. This requires a complete turnover in our method of production that has existed until now, and at the same time in our current social structure" (K. Marx and F. Engels, "Soch." [Works], Vol 20, p 497).

These problems have been positively resolved only since the victory of the October Revolution in our country, and subsequently, by formation of cooperation among socialist states and establishment of broad specialization among them. The planned development of the economy of socialist countries withstands the predatory methods of management that are governed by the race for profits inherent to capitalism. Planned development is based on a prudent attitude towards natural resources and concern for present and future mankind.

Our people are not threatened by an energy shortage. On the contrary, by successfully developing power engineering and accelerating scientific and technical progress on its base (and within power engineering itself), the Soviet state guarantees the economic elevation of society. In June 1980 at the meeting of power engineers, member of the CPSU Central Committee Politburo, secretary of the CPSU Central Committee, Comrade A. P. Kirilenko noted: "The party is starting from the fact that further economic and social progress of the country, and improvement in the welfare of the Soviet people can only be guaranteed with a leading growth in the energy potential of the national economy."

The draft of the CPSU Central Committee for the 26th Party Congress "Main Directions for Economic and Social Development of the USSR for 1981-1985 and the Period to 1990" stipulates improvement in the structure of the country's fuel and energy complex, guaranteed effective involvement of the fuel and energy resources of the eastern regions in the economic turnover, and improvement in their use.

The USSR has major natural energy resources. The fuel and energy complex is successfully developing on their basis. The country's need for all types of fuel and energy is being provided for completely, in the assigned quantity and quality, despite a number of regional peculiarities and difficulties. The socialist production method guarantees systematic regulation of production, distribution and use of energy resources among the union republics.

The USSR has currently become the world leader in production of organic fuel and use of hydrological power. Our country extracts more oil and coal than the United States. In the near future, the U.S. level of gas extraction will be reached and exceeded. The USSR is the pioneer in the use of nuclear energy for peaceful purposes. We are building large atomic power plants with powerful thermal and fast breeder reactors. We are conducting experimental-industrial tests of new energy sources, including thermonuclear, and we are searching for an economical and efficient use of electricity and heat in the national economy.

The Central Asian fuel and energy complex is an important link in the chain of the USSR's energy system. It has broad direct and reciprocal ties with all sectors of the national economy of Central Asia, Southern Kazakhstan, the Urals and other regions of the country. It significantly depends on the development of those industrial sectors that form the material and substantial structure of its main funds.

The fuel and energy complex of the Uzbek SSR is the collection of bases of explored energy resources and energy fields on its territory where economically expedient extraction, refining, processing, distribution and conversion of energy of organic fuel, water currents, sun, wind and other sources into heat, electricity and other types of energy are carried out. As an object of control and planning, the fuel and energy complex of the republic forms a hierarchy of branch and territorial systems: coal, oil, oil refining, gas industry, electrical power engineering, including thermal power engineering, and the energy services of the oblasts, territorial-production complexes and other energy formations. Each branch system is an independent object of control that solves the problems of current functioning and planning of the branch in the framework of the plans of the ministries and the planned developments of the republic.



In a territorial aspect, the Uzbekistan fuel and energy complex is represented by a collection of power engineering bases: Angren-Chirchik, Fergana, Surkhandar'inskiy and West Uzbekistan (including Karshi, Bukhara and Ustyurtakiy). The West Uzbekistan and Angren-Chirchik fuel and energy bases are the most developed and powerful. Here, including conversion of water current energy into electricity, 86 and 103% of the republic's energy resources are produced respectively, including 99% of the gas, 29% of the oil, 98.5% of the coal and 93% of the electricity generated at the hydroelectric power plants.

Future favorable potentialities are visible for increasing the organic fuel extraction level at the Surkhandar'inskiy fuel and energy base. Major gas fields can be opened up here and considerable reserves of coal can be switched from the predicted categories to the industrial. The possibility of finding new oil fields of industrial importance is not excluded.

The Fergana fuel and energy base is also not without promise, however, the oil structures detected here are at great depths. Exploration and development will require considerable capital investments and longer periods of start-up. In the future therefore, the West Uzbekistan and Angren-Chirchik bases will maintain their leading position.

The Uzbekistan fuel and energy complex is a major producer of fuel and electricity in Central Asia. It has developed intra- and interrepublic electrical and gas transportation lines and extensive production contacts with all national economic sectors. It is responsible for 58% of the electricity, more than half of the coal, and over one-third of the natural gas extracted in the Central Asia region.

In the 10th Five-Year Plan for a number of objective reasons, the organic fuel production in Uzbekistan was stabilized on the previously attained level. In this period, low-sulfur gas fields were mainly developed, autonomous main gas pipelines were built to transport sulfurous gas, the facilities of the Mubarek gas refinery and the Angren open coal pit were expanded, construction was continued on the first link in a power transmission line of 500,000 volts, etc. Completion of this work in the 11th Five-Year Plan will permit systematic increase in extraction of coal and gas, as well as refining of the latter, stable gas supply to the Navoi cement plant, the Navoi and Syrdar'inskiy GRES's, and improvement in its supply to the republic cities in the winter.

As any other developing facility, the Uzbekistan fuel and energy complex undergoes quantitative and qualitative changes as the reserves of energy resources are worked and new fields are started up. These changes are governed by the regional features of functioning of the fuel and energy bases. Analysis of these features confirms the urgency of solving a number of major branch and interbranch problems in defining the future. Objective conditions thus dictate the need to first of all improve the proportions in power engineering. This means that it is important not to allow discrepancies between the development of the heat and hydroelectric power plants on the one hand, and the creation of a reliable and maneuverable reserve on the other hand. It is common knowledge that the Central Asian region is characterized by a pronounced seasonal influx and expenditure of water resources and the cyclic appearance of a low water level that can last for 2 or more years. Moreover, it should not be forgotten that farming here is based on intensive irrigation at a specific season, without which it practically cannot function. It is therefore natural that the interests of power engineering in the region are subordinate to the interests of irrigation.

It should be stated that the technique adopted by the USSR Gosplan for computing the balance of electricity production at hydroelectric stations for the average water year possibly corresponds to the conditions in the middle zone of the country and Siberia, however, it does not correspond to the water regime of the Central Asia rivers. In this sense, the consequences of the low water level in 1974 and 1975 are indicative. It would seem that the total rated output of the Uzbek and Kirghiz energy system power plants, about 2 million kilowatts, should create a stable supply of electricity. This does not happen in practice: the water regime only permitted a partial loading of the power generating units. It was not possible to compensate for the undergeneration of electricity by means of the thermal power plants because of the low power reserve in the energy systems. The consequences were unfavorable: the industrial enterprises had to be sharply restricted in power and electricity and their operation was switched to a sliding schedule. It was necessary to reduce the electricity supply even to the general sector. This situation must not be permitted in the future, the more so since the Central Asian region has started a course of primary construction of large hydroelectric power plants. The Nurek GES with output of 2.7 million kilowatts, the Toktogul GES with output of 1.2 million kilowatts, and the Charvak GES with output of 0.6 million kilowatts have already been built. The Kurpsayskiy GES with output of 0.8 million kilowatts, the Rangunskiy GES with output of 3.2 million kilowatts, and other power plants are under construction.

The involvement of constantly renewed energy resources on large scales in the national economic turnover will permit a corresponding conservation of organic fuel reserves, their use for more important purposes, and increase in the efficiency of the fuel and energy balance. However, in optimal terms, the development of hydroelectric power plants should be strictly combined with the development of thermal power plants. Ignoring the power overestimate of the first and underestimate of the second in the low-water years will place the economy of the Central Asian region, especially the Uzbek SSR that consumes over 50% of the electricity generated in it, in exceptionally serious conditions.

Economic studies have shown that in order to balance the power plant output and create a stable and reliable electricity supply in the region, it is necessary, in parallel with the start-up of the hydroelectric power plants built in Central Asia, to force the construction in the Uzbek energy system of the Novo-Angren GRES, accelerate the start-up of no less than four power generating units at the Talmardzhan GRES, and reconstruct the Takhiatash GRES. It is easy, with the minimum capital investments, to include these power plants in the high voltage power transmission network. Moreover, they are located near the fuel bases. In addition to constructing power plants, laying of the second networks of power transmission lines with 500,000 volts should be completed more rapidly in the planned period in the unified energy system of Central Asia and South Kazakhstan.

The problem of forming a raw material base and developing the Uzbek SSR gas base acquires special importance. This sector of the fuel and energy complex is the branch of production specialization of the republic in the all-union division of labor. Its future progress will depend on the successful implementation of a number of tasks.

Today's base of this sector differs qualitatively from that of the 1960's and early 1970's. It changed drastically towards increase in the resources of sulfurous gas over nonsulfurous. The depth of the gas-containing structures in the earth also



increased, roughly 2-3-fold. The inclusion of sulfurous gas in the national economic turnover causes additional capital investments and increase in metal consumption for construction of anticorrosion equipment at the gas fields and for construction of gas-transporting trunklines. The slow rates of development of already discovered fields are linked to difficulties in erecting complex sulfur-purification works when the sulfur-containing gas fields are spread far apart. Their build-up requires the use of special steels that are resistant to the highly aggressive sulfur-hydrogen-containing medium, and the construction of complex inhibitor facilities essential to the operation of the fields. All of this complicated the conditions for functioning of the gas extracting industry in the 10th Five-Year Plan and affected the plans for its development.

The Uzbek SSR Ministry of Geology in past years did a lot of work to find, explore and systematically increase the explored gas reserves, exceeding extraction. It should be said that the resource potential makes it possible to maintain the formed growth rates of industrial gas reserves. Therefore, without reducing them, we should intensify the search for and exploration of sulfur-free gas. For this purpose it is necessary to concentrate part of the work in those regions where in principle one should expect to find new sulfur-free fields. According to the prediction of the Central Asian Scientific Research Institute of Natural Gas, they should be sought for in particular in the Lower and Middle Jurassic, as well as the Upper Paleozoic formations of West Uzbekistan and Ustyurt. The scientific research organization is faced with formulating an initial regional model for placement of collectors based on the paleographic structures, and producing a scientifically substantiated arrangement for the network of exploratory drill holes. This will facilitate the search for resources of sulfur-free gas and will help to solve the problem of increasing the level of its extraction in the near and distant future.

The currently operating gas fields with high resource concentration (Gazli and others) have entered the depletion stage. It is therefore necessary to introduce new fields on large scales in order to maintain the attained extraction level. The creation of sulfur-purification complexes is especially important in this sense. These complexes that are present in Mubarek cover the need for them by 50%. In the 11th Five-Year Plan, therefore, in addition to preparing the explored gas resources, it is necessary to develop the sulfur-purification complexes at accelerated rates, increasing their output 2-2.5-fold.

The problem of developing trunk gas pipelines is less acute. When the autonomous gas pipelines Shurtan-Syrdar'inskiy GRES and Mubarek-Navoi are put into operation, the output of the gas-transporting system of the Tashkent direction will be significantly increased. In order to improve the gas supply of Andizhan, Leninsk and the regional centers of the Andizhanskaya and Ferganskaya Oblasts, in the 11th Five-Year Plan the trunk gas pipeline Kokand-Fergana-Leninsk-Andizhan will have to be built.

The problem of searching for new oil fields, introducing efficient methods of intensifying extraction, and increasing the degree of extraction from the earth's depths acquires special importance in the oil industry. The raw material base of this branch is currently insufficiently prepared. The weak increment in industrial oil reserves is associated both with objective reasons of the complexity of conducting exploration, and with the fact that efficient methods of searching for oil have not yet been proposed. Consequently, the scientific organizations, in the

first place, the planning Institute of Geology and Exploration of Oil and Gas Fields of the USSR Ministry of Geology and the Central Asian Scientific Research and Planning Institute of Oil are faced with formulating and scientifically substantiating a forecast of the oil content of the republic's territory after indicating the most promising regions where fields with high oil concentration might be discovered. The Ministry of Geology of the Uzbek SSR and the production association 'Uzbekneft' have to strengthen the search and exploration work.

It has long been time to improve the oil-transporting lines of the Fergana oil refinery and to update its production units. This is because of the altered raw material base. This problem should be solved in the 11th Five-Year Plan by laying a branch to the Fergana plant from the nearest trunk oil pipeline.

The coal industry will be further developed in the near future. It is very important in forming the fuel and energy complex and the energy balance of Central Asia in general, and the Uzbek SSR in particular. The resource potential of the sector is vast. Of the currently known fields, the Angren lignite field is the most favorable in a geological and economic respect. It is being worked by the open-pit method. It is planned to double the coal extraction here in the next 5-6 years.

The optimal functioning of the coal industry both now and in the future first of all requires the complex use of the mineral resources of the Angren coal field. It can also be successfully called a kaolin field, however, because of the sector separateness in planning and control, only coal is extracted here while the kaolin clay that is the raw material of alumina production is hauled to the dump in enormous quantities. The USSR Ministry of Nonferrous Metallurgy, knowing the suitability of the clay for alumina production, does not take important measures to use it. The kaolin clay is only used in a small quantity at the ceramic plant of the Uzbek SSR Ministry of the Construction Materials Industry. This also shows the departmental limitation. The plant plan calls for construction of a shop to produce (enrich) the commercial kaolin for a broad circle of consumers. However, the Ministry of Construction Materials Industry has only set up its manufacture for internal consumption. The commercial kaolin shop has not been built. Consequently, with the raw material available, the Uzbek SSR Ministry of Light Industry is forced to bring in the kaolin clay from the Ukraine for the republic's porcelain plants.

There is no analog for the organization of alumina production based on the Angren kaolins in the USSR. In 1970-1971, the All-Union Institute of the Aluminum-Magnesium Industry (VAMI) compiled an equipment-technological plan for refining the Angren kaolins. It proved the possibility of producing alumina under industrial conditions.

From a methodological viewpoint, a reliable evaluation of the efficiency of producing alumina from the Angren kaolins can only be made with consideration for all the economic factors that follow from comprehensive refining and use of the kaolin clay on waste-free technology. For example, in the coal industry, according to the quantity of kaolin clay that is included in processing in alumina and other industries, there is a reduction in the expenditures for stripping operations and a drop in the net cost of coal extraction. In the cement industry, thanks to the use of alumina production sludge at the active cement plants, the manufacture of cement is increased and the quality improved, while the labor, monetary and energy expenditures are diminished. In nonferrous metallurgy (in particular at the

Tajik aluminum plant), by replacing the alumina imported from afar by the Angren, the transportation expenditures will be significantly reduced and the divergence of transportation vehicles and energy resources to haul it will be diminished. The total economic effect of all of these measures may be no less than 10 million rubles per year.

Analysis of the state and features of development of the Uzbekistan fuel and energy complex confirms the need for studying the problems of both increasing the level of coal extraction at the Angren and Shargun' fields, and involvement of the resources of the Baysunskiy coal field. Evidently in the visible future the open pit method of coal extraction in the Angren field will reach its economically expedient level and its further rise will require the construction of new mines. This aspect should also be studied in order for the corresponding sections to be prepared in time for the new mines.

The future of the coal industry in the Surkhondar'inskaya Oblast should be viewed in interrelationship with the development of the territorial production complex (TPC) since here there are reserves of coal, oil, gas, complex ores, mining-chemical raw material, construction materials and other resources. The enterprises for extraction and enrichment of the complex ores, large power plant with output of no less than 1.2 million kilowatts and mines at the Baysunskiy and Shargun' fields can become the nucleus of the TPC. These fields serve as the fuel base for this GRES, facilities of the gas (Gadzhak), mining-chemical industries and other enterprises.

The functioning of the Surkhondar'inskiy territorial production complex is governed by the permanent direct and reciprocal ties of its component facilities, as well as the broad ties between the TPC and all sectors of the Uzbek SSR national economy. It goes without saying that the successful organization of the TPC will depend on the interrelated planning and coordination of work for systematic arrangement and construction of the facilities in the complex in the optimal periods. It therefore seems to us that the successful solution to this problem needs formulation of a comprehensive target program for development of the Surkhondar'inskiy TPC.

At the November (1979) Plenum of the CPSU Central Committee, General Secretary of the CPSU Central Committee, Comrade L. I. Brezhnev stressed that no matter at what rates we develop power engineering, conservation of fuel and energy in the future will be the most important national task. The country is systematically adopting the decisions of the directive agencies, ministries and departments are formulating and implementing measures for reduction in specific consumption standards for fuel and energy, decrease in operational losses during extraction, processing and transporting of coal, oil, gas and electricity, and other measures are being taken.

There are many omissions in this matter in Uzbekistan. Many industrial enterprises do not have general-plant and unit calculation of gas consumption. They make poor use of the heat from exhausts and hot water. The proper heat insulation of buildings is missing. The high dust content of the municipal boiler houses significantly increases the specific consumption of fuel to produce heat, a number of power engineering facilities are operating on outdated gas-mazut burners, etc. In the future the requirements for a regime of economical and efficient use of energy resources will of course rise. The solution to this problem must be based

on the achievements of scientific and technical progress, the introduction of new production processes, the reconstruction and updating of the power-consuming equipment, fuller recovery of secondary energy resources, perfection in the combustion processes, and improvement in the operating regime of the fuel and energy facilities.

It should be noted that the internal and external ties of the fuel and energy complex will become considerably more complicated in the future. Its quantitative and qualitative development will depend to a considerable measure on the results of the broad introduction of new equipment and efficient production processes, the implementation of advanced scientific and organizational measures, the perfection of production and labor organization in all links, the combination of branch and territorial planning, coordination and correlation of the development plans of the fuel and energy complexes and energy balances of the republics of Central Asia and South Kazakhstan.

COPYRIGHT: "Kommunist Uzbekistana", 1981

9035

CSO: 1822

END

**END OF**

**FICHE**

**DATE FILMED**

4/25/91